



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,449	01/10/2002	Ai Quoc Pham	IL-10822	6469

7590 11/07/2003

Alan H. Thompson
Deputy Lab Counsel for Intellectual Property Law
Lawrence Livermore National Laboratory
P.O. Box 808, L-703
Livermore, CA 94551

EXAMINER

MAPLES, JOHN S

ART UNIT	PAPER NUMBER
----------	--------------

1745

DATE MAILED: 11/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/043,449

Applicant(s)

PHAM ET AL.

Examiner

John S. Maples

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 ~~is/are~~ are pending in the application.
- 4a) Of the above claim(s) 1-12 and 21-25 ~~is/are~~ are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 13-19, 26 and 27 ~~is/are~~ are rejected.
- 7) ☒ Claim(s) 20 ~~is/are~~ objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 6) ☐ Other: _____

Art Unit: 1745

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-12 and 21-25, drawn to a method for making a fuel cell, classified in class 29, subclass 623.1.

II. Claims 13-20 and 26-27, drawn to a fuel cell, classified in class 429, subclass 33.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product as claimed could be made by another and materially different method such as by forming the buffer layer on the electrolyte layer by a sputtering technique.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their different classification and recognized divergent subject matter, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with John Woodridge on October 27, 2003 a provisional election was made without traverse to prosecute the invention of Group II, claims 13-20 and 26-27. Affirmation of this election must be made by applicant in replying to this Office action.

Claims 1-12 and 21-25 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

application. Any amendment of inventorship must be accompanied by a request under 37 CFR

1.48(b) and by the fee required under 37 CFR 1.17(i).

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by applicant's admission on page 3 of the present application.

Reference is made to page 3 of the present application for the disclosure of the claimed product. Even though this disclosure states that there was no significant performance improvement, the fact remains that a solid oxide fuel cell as claimed was produced.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1745

10. Claims 13, 16-19 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable

over applicant's admitted disclosure on page 3 of the present application in view of Doshi et al.-
US 6,558,831 (Doshi).

The only claimed elements not taught by applicant's admitted disclosure is the electrode being ceria doped and for the thickness of the layers in the fuel cell. Doshi teaches a fuel cell having a zirconia electrolyte along with a barrier layer that is ceria doped located between the electrolyte and a ceria doped electrode-see column 5, line 60 through column 9, line 15. Doshi also discloses an electrolyte layer that is between 5-25 microns thick where the alternating layers are in a 1:1 ratio. The barrier layer and the electrode layer in Doshi thus fall within the claimed thicknesses. To thus incorporate the teachings of Doshi in the admitted prior art fuel cell would have been obvious to one of ordinary skill in this art to provide a thin fuel cell usable in multiple environments due to its thin configuration and which fuel cell having improved output properties enhanced by the electrode being ceria doped.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Both Mogensen et al. and Baozhen et al. teach solid oxide fuel cells of interest.

12. The following is an examiner's statement of reasons for allowance: the prior art of record does not set forth the limitations of the fuel cell of claim 20 wherein multiple layers of the doped-zirconia/doped ceria/LSCF+doped-ceria/LSCF are present wherein the LSCF functions as a current collector.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

Art Unit: 1745

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 703-308-1795. The examiner can normally be reached on Monday-Thursday from 6:15-3:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 703-308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



John S. Maples
Primary Examiner
Art Unit 1745

JSM/11-03-2003